1038-13-347   **Giulio Caviglia*** (`gcavigli@math.purdue.edu`), Purdue University, Department of Mathematics, West Lafayette, IN 47907. *A sharp bound on the multiplicity of almost complete intersections.*

In a recent paper Engheta studied the multiplicity of R/I with R a polynomial ring over a field of characteristic zero and I the ideal of an almost complete intersection. Engheta provided a bound for the multiplicity depending on the degrees $d_1, \ldots, d_{c+1}$ of the almost complete intersection. We improve his result by obtaining a bound, actually sharp, in any characteristic. We use initial ideals with respect to weight functions and generic distractions to reduce the problem to the Artinian case. In this setting the bound on the multiplicity follows immediately from a stronger result of Francisco on the Eisenbud-Green-Harris conjecture. (Received February 13, 2008)